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**The Impact of Parental Monitoring On Sexual Risk Behaviors in a Juvenile-Justice
Involved Cohort**

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Abstract

The use of alcohol and marijuana are associated with increased sexual risk behaviors such as earlier sexual debut, greater number sexual partners, and inconsistent condom use among juvenile-justice involved adolescents. Studies on parental monitoring and supervision have shown a strong influence of living situation on these behaviors in the general population, but lack research within a juvenile-justice involved population. The current study examines the impact of living situation on several risk behaviors among a juvenile-justice involved cohort while examining race/ethnicity and gender as moderators. 460 adolescents in a juvenile detention center completed self-report questionnaires. Effects of living situation were found to be stronger among female and Hispanic adolescents. No effects were found between the relationship of living situation and alcohol use, marijuana use, or condom use. The study provides evidence that differing levels of parents in the home may influence risk behaviors in a juvenile-justice involved population, but needs to be examined in greater detail.

The Impact of Parental Monitoring On Sexual Risk Behaviors in a Juvenile-Justice Involved Cohort

The use of alcohol and marijuana are positively correlated with increased sexual risk behaviors among adolescents; this association is stronger when looking at juvenile justice involved youth (Callahan, Montanaro, Magnan, & Bryan, 2013). These sexual risk behaviors include: earlier sexual debut, greater number of sexual partners, and lower rates of condom use. Some studies have shown that parental practices and supervision influences these behaviors, such that higher levels of parental monitoring results in lower engagement in risk behaviors (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Fagan, Lee, Antaramian, & Hawkins, 2011; Hirschi, 1969; Huang, Murphy, & Hser, 2011). The goal of this study is to examine whether parental monitoring influences the relationship between substance use and sexual risk in a sample of juvenile-justice involved youth.

Alcohol use continues to be a growing problem among adolescents. Assessments have shown that 74.8% of high school seniors reported consuming at least one alcoholic beverage (Johnston, Bachman, & O'Malley, 1996). Alcohol use is even more prevalent among justice-involved adolescents, with around 88.7% reporting consuming alcohol. In addition to alcohol, marijuana use is common among adolescents, and again justice involved adolescents use marijuana at higher frequencies compared to the general population (Lebeau-Craven et al., 2003). Marijuana is the most frequently used substance within the population of criminally involved adolescents, followed by alcohol (NIJ, 2000). Frequency of intercourse is positively associated with the frequency of substance use in justice-involved adolescents (Callahan et al., 2013; Castrucci & Martin, 2002), and

with lower frequency of condom use. Furthermore, both alcohol and marijuana use are associated with a decline in condom use over time (Bryan et al., 2012; Schmeige, Levin, & Bryan 2009).

Due perhaps in part to increased levels of substance use, juvenile justice involved youth display significantly higher levels of sexual risk behavior, resulting in increased levels of sexually transmitted infections (STIs) and unplanned pregnancy (Teplin, Mericle, McClelland, & Abram, 2003). Individuals 15-25 years old have the highest risk for STIs, and account for nearly half of the 19 million new STIs each year (CDC, 2013). About 50% of new human immunodeficiency virus (HIV) cases are found in this age group, with higher rates in correctional populations (Wilson et al., 2010; Teplin et al., 2005). Among a sample of juvenile justice involved youth, only 8.4% of sexually experienced adolescents reported consistent condom use during sexual intercourse (Callahan et al., 2013).

Criminological studies about substance use often discuss the idea that poor parenting may lead to increased drug use and delinquency (Fagen et al., 2010). Parental monitoring is described as active control and supervision of adolescents by the primary caregiver(s) which includes behaviors such as being aware of where children are, what behaviors they engage in, and the peers they associate with (Yabiku et al., 2010). The gender of the caregiver and relationship (biological, extended family, etc.) of the caregiver do not appear to moderate the association of parental monitoring and risky behavior. The influence appears to come from the parenting practices of the primary caregiver. Social control theories agree that parental monitoring and support are critical in controlling the delinquency of adolescents. In a study done by Borawski et al. (2003)

examining the role of parenting on adolescent risk behavior, they found that adolescents from two-parent homes reported higher levels of parental monitoring than those from one-parent homes. Within this study and others, authors have concluded that higher levels of parental monitoring were significantly associated with less sexual activity and lower rates of substance use (Borawski et al., 2003; Blum et al., 2000). Other studies support Borawski et al.'s findings that unsupervised time increases risk of problem behaviors. (Yabiku et al., 2010; Hirschi, 1969; Fagen et al., 2010; Huang et al., 2011).

The bulk of research on parental monitoring has been done with typical adolescents, while there is a relative lack of research on the impact of parental monitoring among juvenile justice-involved adolescents. Due to the higher level of substance use and sexual risk behaviors among justice involved adolescents, understanding the role of parental monitoring could be of great use for this population.

A number of studies have shown that there are both gender-specific and ethnic-specific moderators on the influence of parental monitoring. Male adolescents have been found to have lower levels of parental monitoring than their female counterparts. (Huang et al., 2011). Both boys and girls who underwent high levels of parental monitoring were at a lower risk for early initiation of sexual activity (Oberlander et al., 2011). Although both gender's benefit from supervision, females tend to receive more. These findings suggest a significant gender difference in how parents chose to monitor their children. Due to the difference in quantity of parental monitoring across genders, the impact of parental monitoring is likely to be more protective for girls and less protective for boys.

Ethnicities differ in the values placed on the importance of family and parental behaviors. Societies and cultures place different emphasis on their expectations of

children, which translates into cultural variability in parenting practices (Roopnarine, 2005). Due to these varying degrees of familial practices, we can expect to see race/ethnic-specific differences in the influence of parental monitoring. Latino cultures value family closeness, social support and proximity to extended family members more so than other cultures (Yabiku et al., 2010). Tragesser et al. (2007) compared the levels of parental monitoring and its influences across three ethnic groups; African-American, Hispanic, and non-Hispanic white. The data showed that rates of parental monitoring were highest among African American youth. Additionally, the data suggested that parental monitoring has a stronger association with risk behaviors in African American and Hispanic youth compared to non-Hispanic white youth (Tragesser et al., 2007; Schroeder, Bulanda, Giordano, & Cernkovich 2010). Due to a variance in level of parental monitoring in families of different race/ethnicities, the impact of parental monitoring on risk behaviors is not likely to be equal across ethnic/racial groups.

Current Study Overview

Many gaps exist in the current literature on parental monitoring and adolescent risk behavior. First and foremost, the previous research has been done among the general population and has failed to consider high-risk populations, such as juvenile justice involved youth. Because juvenile justice involved youth have the highest rates of engaging in the risk behavior, it is important to address this sample directly. Furthermore, the possible moderating role of gender or race/ethnicity have yet to be examined in a sample of juvenile justice involved youth.

The current study addresses these limitations in the existing research and attempts to move the literature on parental monitoring forward by focusing on a different

population. This sample represents a population of criminally involved youth that were detained at the time of participation. I will be examining variables of parental monitoring by comparing risk behaviors of participants who live with either both parents (mother and father), a single parent (mother or father), and other. Since 2 parent homes are associated with higher levels of parental monitoring, I expect to see less risk behavior among the 2 parent home group. Specifically, I will examine if having two parents at home serves as a protective factor in sexual history, condom use history, substance use history, and STI/HIV history.

The aim of this study is to examine the association between parental monitoring and risk behaviors among justice involved youth in order to contribute to the literature for this high risk group of adolescents. If parental monitoring serves as a protective factor in fostering resiliency in this high-risk sample, society can better adapt methods of reducing risk outcomes such as STIs/HIV. If the data finds that gender or ethnicity moderates the association of parental monitoring to risk behavior, it may provide information for interventions to target such populations to help with the deterrence of risk behaviors.

Based on the previous literature, I hypothesize that the participants from 2-parent homes will have significantly lower risk behaviors. Also based on previous literature, I believe this relationship will be significantly stronger among Hispanic adolescents and among female adolescents.

Method

The current study utilizes data from Project MARS (Motivating Adolescents to Reduce Sexual Risk), an NIH/NIAAA funded study (PI: A. Bryan) conducted at the

University of New Mexico. The goal of Project MARS was to reduce alcohol use, marijuana use, and sexual risk behaviors among juvenile-justice involved adolescents by investigating the efficacy of an empirically based sexual risk reduction intervention.

This study looked at integrating several aforementioned risk behaviors into one intervention focused on the Theory of Planned Behavior. The objective was to determine if targeting the Theory of Planned Behavior variables could reduce these risk behaviors (Callahan et al., 2013). The conception of integrating multiple risk behaviors was previously shown as a viable method among a juvenile-justice involved cohort.

The current study utilizes data taken from baseline measures of Project MARS before the participants were randomly assigned to an intervention condition. I will analyze gender and ethnicity as moderators to determine if these variables impact the relationship between living situation and risk behaviors among this population

Participants

The sample consisted of 460 justice-involved youth, with a majority (75.4%) being male. The average age of the participants is 15.82 years of age ($SD=1.15$), and the majority (68.5%) is Hispanic (see Table 1). All participants were living in a juvenile detention center at the time of recruitment (Callahan et al., 2013). Research assistants at the University of New Mexico visited the local county juvenile detention center to recruit adolescents as participants for this study. In order to be eligible for the study the youth had to meet the following criteria: (1) be between the ages of 14-18 (2) speak English (3) have a remaining term in detention of less than one month (4) be willing to sign a release form allowing access to their STI test results if they were tested at intake (Callahan et al., 2013). If the participant was under the age of 18, parent/guardian consent was acquired

via the telephone. Each participant received \$20 for completing the baseline measures, STI test, and optional DNA sample (Callahan et al., 2013).

Measures

Demographic Questionnaire

A demographic questionnaire was used to gather information on the participant's age, sex, SES, employment, education, and race/ethnicity. Additionally, the participants were asked who they live with when they are not in a detention facility (i.e. both parents, one parent, or other). Lastly, the participant is asked about the nature of the crime for which they are in detention.

Lifetime Sexual History

Each participant was first asked whether they had ever had sexual intercourse. Those who answered yes then answered questions about the age of sexual debut, number of sexual partners they have had, and frequency of sexual intercourse (1= a few times a year, 2=once a month, 3=once a week, 4=two to three times a week, 5=four to five times a week, and 6=almost every day). Additional questions assessed lifetime frequency of condom and contraception use. Each participant reported how often they (or their partner) used condoms (1=never to 5=always). Questions regarding substance use in conjunction with sexual activity were also included referring to the most recent intercourse and their behavior in the last three months. Particularly they will be asked if they were under the influence of alcohol, marijuana, or both and whether or not they and their partner used a condom or any form of birth control at last sexual intercourse. Additionally for those whose intercourse experience included alcohol/marijuana, they are asked how much alcohol/marijuana they consumed, and how much alcohol/marijuana their partner

consumed. Lastly, participants are asked whether they have ever had a sexually transmitted disease (yes/no) and whether they have ever been pregnant (female) or gotten someone pregnant (male).

Alcohol Use and Dependence

To assess alcohol use and frequency, each participant completed a measure of alcohol quantity and frequency of use (White & Labouvie, 1989). Those who reported that they had consumed an alcoholic drink at least once were then asked to report the frequency of use in the last 3 months (1=never to 9=everyday). Additional questions addressed the number of drinks consumed in one sitting (1=none, 2=one drink, 3=two-three drinks all the way to 10=more than 20 drinks), and their rate of being drunk when drinking in the past 3 months (1=never to 5=always).

Marijuana Use and Dependence

To assess marijuana use, each individual reports whether they have ever smoked marijuana. Those who answer yes then answer a set of questions pertaining to the age of first use and frequency of use (1=never to 9=every day).

Sexual Transmitted Infection Testing

Participants who were not screened for sexually transmitted infections at intake by the detention facility were given the opportunity to provide a urine sample to test for chlamydia and gonorrhea. If the individual's results came back positive, they were treated with medications (single dose antibiotics) per facility pediatrician recommendations and under the direct supervision of research or nursing staff.

Results

The sample's means and standard deviations for sexual risk behaviors can be found in Table 2. Within the sample, 93.3% have reported having sexual intercourse in their lifetime, with a mean age of sexual debut at 13.04. On average, the number of lifetime sexual partners is 9.28. When asked about the frequency of condom use while engaging in sexual intercourse, the sample average was 3.04, or "sometimes" they use condoms. The mean age of first alcoholic drink was 11.82 with a mean frequency of alcohol use of 3.67, or between once a month and a few times a month. The mean age of first marijuana use was 11.04 in this sample, with a mean frequency of marijuana use of 5.45, or once a week to a few times a week.

Main Effects of Living Situation on Sexual Risk

The primary analysis of this study examined the effect of parent number in the household as related to risk behaviors using a one-way Analysis of Variance (ANOVA). The secondary analysis examined race and gender as moderators of the relationship between living situation and risky behavior. Dependent upon the response variable (categorical or continuous), the secondary analysis was examined with either a Factorial Analysis of Variance (ANOVA) or a Chi-Square test.

Lifetime Sexual History

The following sexual risk behaviors were each assessed individually: age of sexual debut, number of lifetime sexual partners, condom use, alcohol use related to sexual events, and marijuana use related to sexual events. Additionally, each participant reported a lifetime history of STI diagnosis. Group differences for each variable were assessed using one-way analysis of variance (ANOVA). There was no main effect of living situation on age of sexual debut, condom use, alcohol use related to sexual events,

marijuana use related to sexual events, or STI diagnosis. There was a main effect for living situation on the number of lifetime sexual partners, $F(2, 456) = 3.117, p = .045$. Planned contrasts revealed that individuals who are living with “other” have significantly more sexual partners ($M = 11.61, SD = 14.09$) on average than those living with one parent ($M = 8.97, SD = 11.49$) or two parents ($M = 7.60, SD = 9.62$) (see Figure 1.1).

Moderating Effects of Gender

A Chi-Square test of independence or a factorial ANOVA was used to analyze gender as a moderator on the relationship between living situation and sexual risk behaviors. Gender did not affect the strength of the relationship between living situation and the relationship on age of sexual debut, marijuana use associated with sexual intercourse, or condom use. There was a moderating effect of the gender of the adolescent on the association of parent number and the nature of the relationship with last sexual partner. Females living with “other” and one parent were more likely to have been in a serious relationship with the last sexual partner, $\chi^2(4, N = 113) = 16.03, p = .003$, as compared to someone they just met, or a casual sexual partner (see Figure 2.1). There was no effect of living situation on the nature of the relationship with last sexual partner for males. There was a trend for the moderating effect of gender on the relationship between living situation and number of casual sexual partners adolescents reported. Females living with “other” have the greatest number of casual sexual partners, $F(5, 2) = 3.14, p = .082$. Again, there was no effect of living situation on number of casual sexual partners for males. A factorial ANOVA yielded a moderating effect of gender on the relationship between living situation and number of drinks consumed before last intercourse, $F(2, 5) = 2.115, p = .025$, such that the average number of alcoholic drinks

consumed for females was significantly higher for those living with “other” ($M=1.62$, $SD=2.14$) than those living with one parent ($M=.65$, $SD=1.15$; See Figure 2.2). There was no effect of living situation on number of drinks consumed before last intercourse for males. Finally, there was a moderating effect of gender on the relationship between living situation and lifetime diagnosis of an STI, $\chi^2(2, N=113)=6.130$, $p=.047$, a pairwise comparison found that on average, females living with “other” were more likely to have been diagnosed with an STI than females living with one or two parents (see Figure 2.3). Again, for males there was no effect of living situation on STI diagnosis.

Moderating Effects of Race/Ethnicity

A Chi-Square test of independence or a factorial ANOVA tested race (Hispanic, non-Hispanic) as a moderator for the relationship of living situation to sexual risk behaviors. Due to the racial/ethnic distribution of this sample, the adolescents were grouped into Hispanics versus non-Hispanics. The former was anyone who identified as any Latin, Hispanic, or Spanish origin. The latter included the participants who identified as Caucasian, African American, Asian, American Indian, etc. Race did not affect the strength of the relationship between parent number and alcohol use, marijuana use, or condom use. Race significantly moderated the effect of living situation and how drunk one was at last intercourse, $F(2,5)=2.252$, $p=.021$ (1=not-really, 4=extremely), such that the pairwise comparison revealed Hispanics living with “other” ($M=3.0$, $SD=.79$) reported being more drunk at their last intercourse than Hispanics living with one parent ($M=2.34$, $SD=1.00$) or two parents ($M=2.6$, $SD=.95$). In contrast, non-Hispanics living with one parent ($M=2.6$, $SD=.99$) were on average significantly more drunk than non-Hispanics living with “other” ($M=2.20$, $SD=1.13$) or two parents ($M=2.0$, $SD=.70$) (see

Figure 3.1). There was a significant moderating effect of race on the relationship of living situation to STI diagnosis in the last three months $\chi^2(2, N=306)=10.14, p=.006$, a pairwise comparison concluded Hispanics living with “other” were significantly more likely to have had a STI compared to Hispanics living with one or two parents (see Figure 3.2). There was no significant effect of living situation on STI diagnosis for non-Hispanics.

Main Effects of Living Situation on Substance Use

Main effects of living-situation on alcohol use were tested using a one-way analysis on variance (ANOVA) on alcohol quantity and frequency items. There were no significant main effects on these variables.

When testing for gender and race as a moderator on the relationship of living situation and alcohol use, a Chi-Square test of independence was used. The analyses found no moderating effect of gender or race on the relationship between parent number and alcohol use.

There were also no main effects of living situation on frequency of marijuana use. Similarly, neither race nor gender moderated the relationship between living situation and marijuana use.

Discussion

The main effects of living situation were stronger for sexual risk behavior than substance use. However, having two parents in the home compared to one parent in the home did not result in significantly reduced sexual risk behaviors. The data provide

evidence that gender and race/ethnicity may moderate these effects. Specifically, the influence of parents on female adolescent sexual risk behavior appears to be stronger than for males. Additionally, the influence of parents on Hispanic adolescent risk behavior appears to be stronger than for non-Hispanic adolescents. Non-Hispanic individuals were influenced differently by number of parents in the home. Although only statistically significant when testing for relationships of living situations with level of intoxication at last intercourse, the data trended toward showing that the non-Hispanic group had more sexual risk behaviors when they live with one parent compared to “other” or two. Finally, living situation had no main effect on condom use specifically or when testing for race or gender as a moderator.

Why does parental monitoring serve as a stronger protective factor for female and Hispanic individuals? First, the previous literature suggests that females receive higher levels of parental monitoring than their male counterparts (Huang et al., 2011). Because of this, I inferred that each parent added to the home would significantly increase the level of monitoring for females making the relationship stronger. For males this is not the case, they tend to receive relatively little parental monitoring. With this in mind, it may be assumed that differing numbers of parents in the home does not equal differing levels of monitoring and supervision for males, thus having a weaker effect on behaviors.

Parenting appears to influence outcomes differently in minority populations due to economic disadvantages, racial discrimination, and other stressors related to their minority status (Schroder et al., 2010). Previous studies concluded that the effect of parental practices and supervision has a stronger effect on the risk behaviors for Hispanic and African-American adolescents than non-Hispanic white youth (Tragresser et al.,

2007). Although the African-American adolescents are placed in the non-Hispanic group, they only make up 26% of the non-Hispanic population in this sample. With the non-Hispanic white adolescents holding a majority in this non-Hispanic population, it makes sense that the results more accurately reflect the white youth's outcomes. Previous studies also attribute the racial variance of living situation in reducing risk behaviors to family culture. The difference on the value and importance of family across the racial/ethnic groups could contribute to living situation reducing risk behaviors differently within this sample.

A finding that does not seem to correlate with previous findings is the non-Hispanic group's tendency to engage in more risk behaviors when they live with one parent. Those living with one parent were significantly more likely to have been drunk at their last intercourse. A larger handful of the non-Hispanics who live with "other" live in a group home or shelter compared to the Hispanic group. The rules of these homes may be more strictly enforced, which could potentially lead them to engage in less risk behaviors than those who live with one parent. Additionally, non-Hispanic white youth are more likely to engage in the consumption of alcohol, which could explain this variance between the racial/ethnic groups (Blum et al., 2000).

In contrast to my hypothesis, this study concludes that the relationship between living situation and condom use was not significant. Project MARS used the Theory of Planned Behavior (TPB) to predict change in sexual risk behavior. The TPB posits that the intention to engage in behavior are the biggest predictors of behavior, and that these intentions result from attitudes, norms, and self-efficacy of the behavior (Callahan et al, 2013). The norms construct of the TPB is often established through peer influence, in this

case, whether or not their friends use condoms. Looking through this lens, one might speculate that parents do not shape the intentions of condom use, which explains the null findings. If parents do not influence adolescents' attitudes, norms, or self-efficacy for condom use intentions, the number of parents in the home will not influence condom use.

Similarly, there was no relationship between living situation and alcohol and marijuana use: with or without gender and race/ethnicity as moderators. Juvenile-Justice involved adolescents use these substances at substantially higher rates than the general population. This could potentially be a factor that landed them in this population. The number of the parents in the home might not significantly prevent these substance related behaviors within a high-risk sample.

Limitations

This study has several limitations. The principle of a greater number of parents in a home correlating with a greater level of monitoring and supervision is based off of previous literature. We do not know if the number of parents in the home accurately reflects the level of monitoring in this sample. The questionnaire did not provide specific information on a parent's number of hours spent at home or the adolescent's hours of unsupervised time. Furthermore, a handful of individuals who selected "other" when asked with who they lived did in fact live with one or two relatives (aunt, uncle, grand parent(s)). Previous literature states that the level of monitoring an adolescent receive is more important than who is supplying the monitoring. Although this was only 13 of the participants, it could have slightly skewed the data. Similarly, the number of females we had in the sample was relatively small. Although the male to female ratio was

representative of a juvenile-justice population there were only 31 females in the “other” group and 16 in the two-parent group. To ensure the findings are not due to chance, it would be valuable to have a larger sample of females in each parent group. Finally, because we did not have enough adolescents in each racial/ethnic group, a number of racial/ethnic groups were collapsed into a non-Hispanic group. Due to this, the individual racial/ethnic groups were unable to be analyzed separately and individually.

The results of this study encourage society to create new methods that would increase monitoring and supervision in a population of high-risk adolescents, particularly for the female and Hispanic individuals. A program that offers increased monitoring to these juvenile-justice involved adolescents could act as a preventative measure to avoid the engagement of risk behaviors. This could be accomplished through a program within the detention facilities that encourages families to sign up prior to the detainee’s release. As the individuals living with “other” tend to engage in more risk behaviors, it would be invaluable to ensure these adolescents participate in such programs to receive more supervision.

Moreover, I believe it would serve this population to further assess levels of parental monitoring and supervision as a protective factor. A study that examines living situation in greater detail could serve this population vastly, and potentially discover ways to prevent adverse health outcomes among juvenile-justice involved youth.

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Table 1. Participant Demographic Characteristics.

	Total Sample (n=460)	Females (n=113)	Males (n=347)
Age	15.82 (1.14)	15.86	15.8
Ethnicity			
Hispanic (%)	68.5	29.2	32.3
Non-Hispanic (%)	31.5	70.8	67.7
Living Situation			
“Other”	95	31	64
1 parent	283	66	217
2 Parents	82	16	66

Note. There were no significant differences between genders on any demographic factors

Table 2. Participant Sexual Risk Behavior Characteristics.

	Total Sample Mean (SD)	Females Mean (SD)	Males Mean (SD)
Ever had sexual intercourse (%)	93.30%	93.60%	91.90%
Age of first sexual experience	13.04 (1.69)	13.32 (1.52)	12.95 (1.73)
No. of lifetime sexual partners	9.28 (11.82)	7.51 (8.56)	9.85 (12.96)
Frequency of condom use	3.05 (1.17)	3.04 (1.20)	3.06 (1.17)
Frequency of marijuana use before intercourse	2.95 (1.20)	2.68 (1.17)	3.04 (1.19)
Frequency of alcohol use before intercourse	2.63 (.99)	2.61 (.94)	2.64 (1.01)

Note. Means and Standard Deviations for sexual risk behaviors. Frequencies

(characteristics 4-6) range from 1 to 5 with 1 indicating never, 3 indicating sometimes, and 5 indicating always.

Table 3. Living Situation on Risk Behaviors

	Overall mean (SD)	“Other” mean (SD)	One Parent mean (SD)	Two parent mean (SD)	Test of Group Differences
Age of first sexual experience	13.04 (1.69)	12.80 (1.93)	13.13 (1.61)	13.02 (1.62)	F (2,415)= 1.217, p=.297
No. of lifetime sexual partners	9.28 (11.82)	11.61 (14.09)	8.97 (11.49)	7.60 (9.62)	F (2, 456) = 3.117, p=.045*
Frequency of condom use	3.05 (1.14)	2.94 (1.26)	3.04 (1.15)	3.23 (3.05)	F (2,418)= 1.229, p=.294
Frequency of alcohol use prior to sexual intercourse	2.63 (0.99)	2.74 (1.00)	2.61 (1.00)	2.60 (0.97)	F (2, 419)= .634, p=.531
Frequency of marijuana use before intercourse	2.95 (1.20)	3.01 (1.21)	2.93 (1.18)	2.92 (1.24)	F (2, 419)= .133, p=.875
Ever been diagnosed with an STI	0.17 (0.38)	0.24 (0.43)	0.16 (0.36)	0.13 (0.34)	F= (2, 449)= 2.144, p=.118
How often smoke marijuana in last three months	5.43 (3.46)	5.58 (3.45)	5.46 (2.47)	5.14 (3.46)	F (2,457)= .388, p=.679
How often drink alcohol in the last three months	3.66 (2.51)	3.68 (2.65)	3.70 (2.50)	3.58 (2.40)	F (2, 454)= .075, p=.928

Note. Means and Standard Deviations for sexual risk behaviors. Frequency on condom

use, alcohol use prior to intercourse, and marijuana use prior to intercourse range from 1

to 5 with 1 indicating never, 3 indicating sometimes, and 5 indicating always. STI

diagnosis ranges from 0 to 1 with 0 indicating no and 1 indicating yes. For how often

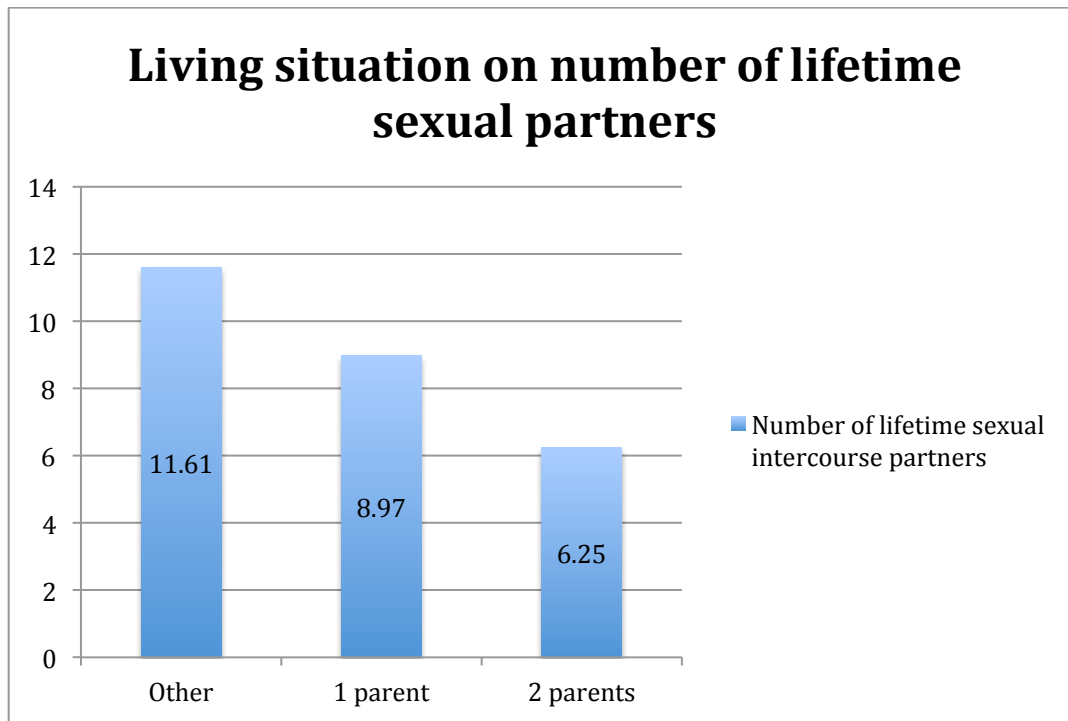
drink alcohol and how often smoke marijuana, answers range from 1-9. 1 indicates never,

3 indicates once a month, 5 indicates 4-5 times a month, 7 indicates 2-3 times a week,

and 9 indicates every day.

Figure 1.1

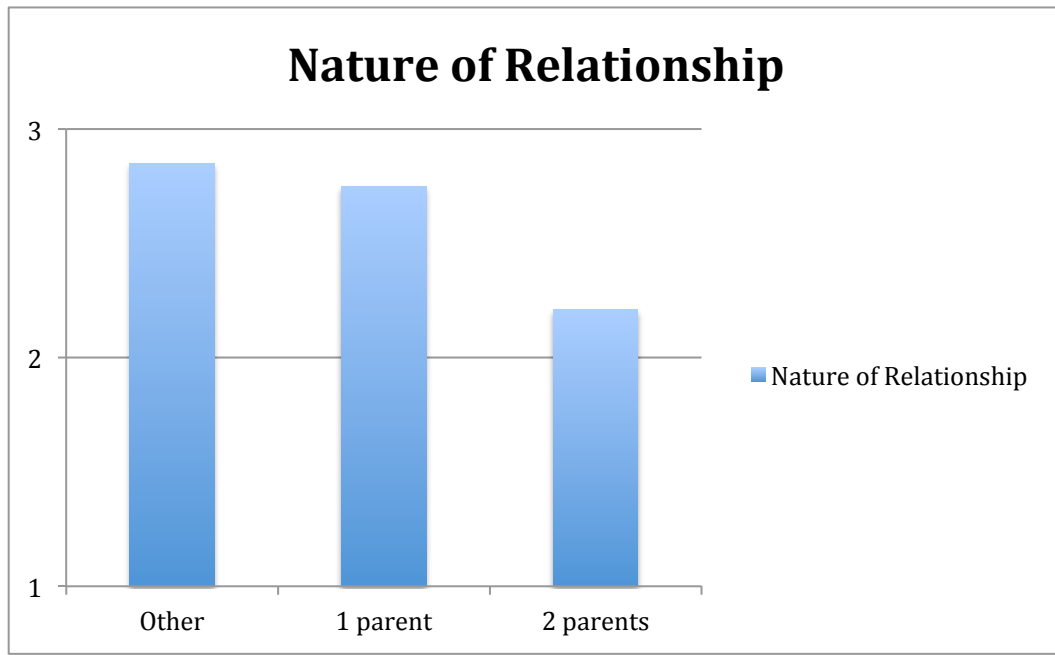
Main Effect of living situation and number of lifetime sexual intercourse partners



Note. $F(2, 456) = 3.117, p = .045$

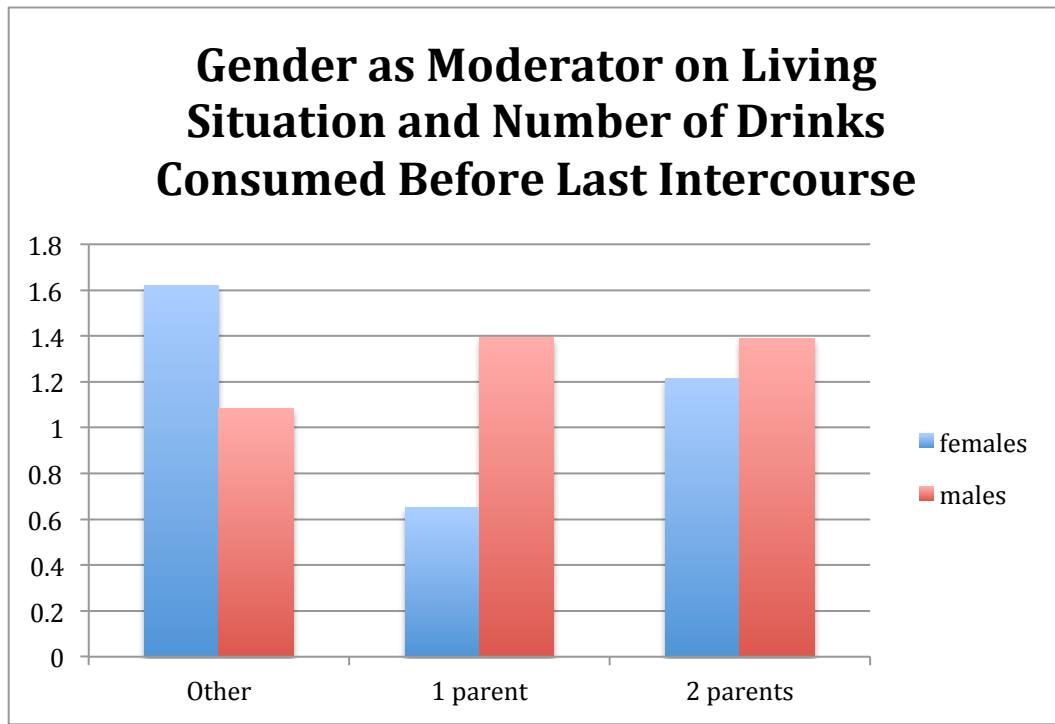
Figure 2.1

Moderating effect of gender (female) for living situation and nature of relationship with last sexual partner

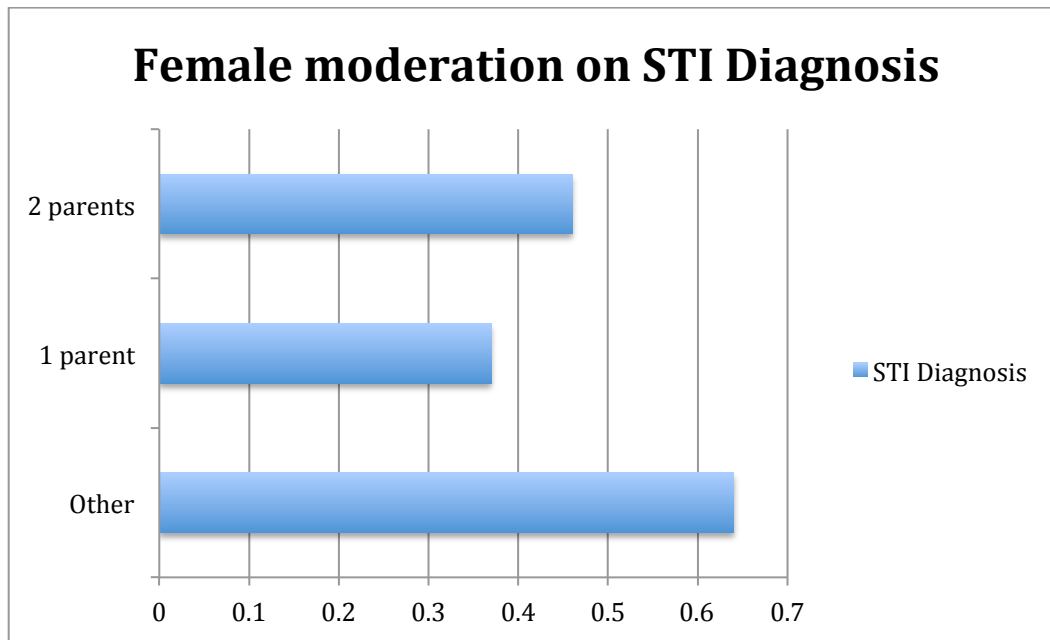


Note. $\chi^2(4, N=113)=16.03, p=.003$. Answers range from 1 to 3. 1 indicates someone just met, 2 indicates a casual sexual partner, and 3 indicates a boyfriend or girlfriend.

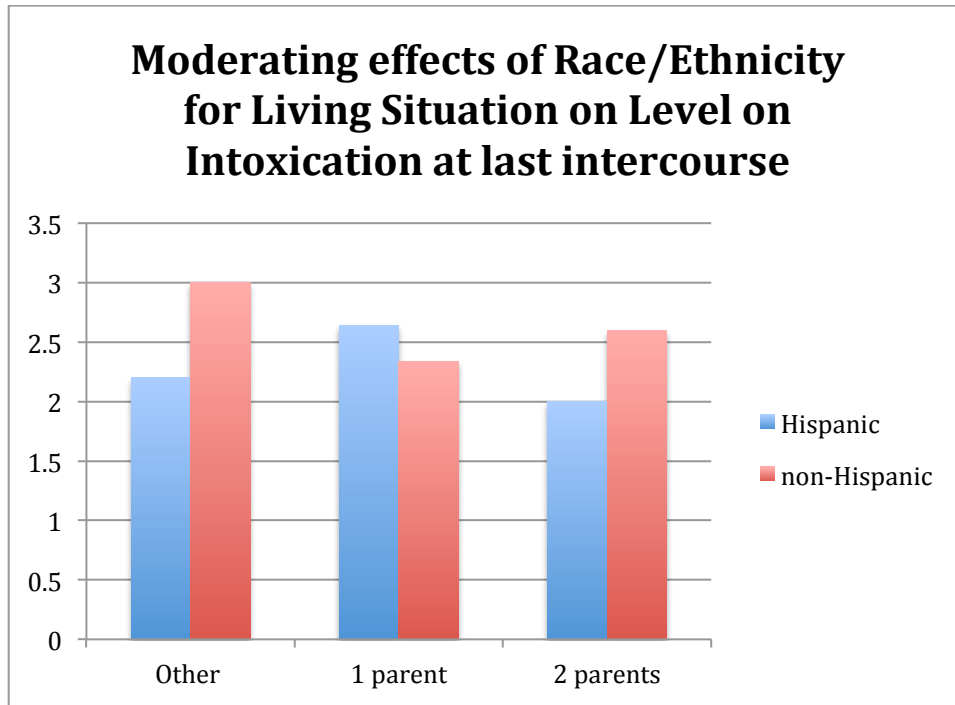
Figure 2.2: Gender as a moderator for the effect of living situation and number of drinks consumed before last sexual intercourse



Note. $F(2,5) = 2.115$, $p = .025$

Figure 2.3: Female moderating effects of parent number on lifetime diagnosis of STI

Note. χ^2 (2, N=113)=6.130, $p=.047$. Answers range from 0 to 1. 0 indicating no and 1 indicating yes.

Figure 3.1: Race as moderator for parent number and how intoxicated at last intercourse

Note. $F(2,5)=2.252$, $p=.021$. Answers range from 1-4. 1 indicates not really, 2 indicating a little drunk, 3 indicating moderately drunk, and 4 indicating extremely drunk.